National Institute of Environmental Health Sciences

The short-term influence of weather on daily mortality in congestive heart failure

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Abstract:

The authors' purpose in this study was to determine whether changes in weather conditions were associated with daily mortality among people aged 65 years and older diagnosed as having congestive heart failure in Montreal, Canada, and who died in the urban area between 1984 and 1993. The authors used a time-stratified case-crossover design and adjusted the models for nitrogen dioxide and ozone. They found a strong nonlinear association with maximum temperature in the warmer months of the year, with a threshold at about 25°C. The authors observed no associations after lag 3 days. In the cold period, they found that risks increased linearly with increasingly colder temperatures, but only after lag 2 days. The authors found no associations with relative humidity. For change in barometric pressure from the previous day, they found no associations in the cold period, but an increase in pressure from the previous day increased risk for lags 0 or 1 days. The authors found some differences between men and women.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Meteorological Factors, Temperature

Air Pollution: Ozone, Other Air Pollution

Air Pollution (other): NO2

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact: M

specification of health effect or disease related to climate change exposure

Cardiovascular Effect

Cardiovascular Effect: Other Cardiovascular Effect

Cardiovascular Disease (other): congestive heart failure

Population of Concern: A focus of content

Population of Concern: M

populations at particular risk or vulnerability to climate change impacts

Elderly

Resource Type: M

format or standard characteristic of resource

Research Article

Timescale: M

time period studied

Time Scale Unspecified